

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-11. (Canceled)

12. (Currently amended) An isolated polypeptide comprising an alpha subunit of a Kv40 potassium channel, the polypeptide:

(i) forming, with at least one additional Kv alpha subunit, a Kv potassium channel having the characteristic of voltage-gating; and
(ii) comprising a subsequence an amino acid sequence having at least 60% amino acid 90% sequence identity to amino acids 102 to 514 of SEQ ID NO:3.

13. (Currently amended) The polypeptide of claim 12, wherein the polypeptide specifically binds to antibodies generated against amino acid sequence has at least 95% sequence identity to SEQ ID NO:3.

14. (Original) The polypeptide of claim 12, wherein the polypeptide has a molecular weight of between about 58 kD to about 68 kD.

15. (Canceled)

16. (Original) The polypeptide of claim 12, wherein the polypeptide has an amino acid sequence of SEQ ID NO:3.

17. (Original) The polypeptide of claim 12, wherein the polypeptide comprises an alpha subunit of a homomeric potassium channel.

18. (Currently amended) The polypeptide of claim 12, wherein the polypeptide encoded by the nucleic acid which comprises an alpha subunit of a heteromeric potassium channel.

19-38. (Canceled)